

ABSTRACT

5 A computer-assisted process for the design and placement of multi-colored patterns
on absorbent substrates using a limited number of transparent process colorants is
described. Through use of this system, a designer, working with a computer-aided
design system, can generate and accurately represent on a computer monitor or
similar display a multi-colored pattern, as that pattern would appear on a specified
absorbent substrate, using coloring elements comprised of groups of multiple pixels
10 in which process colors have been mixed in a controlled manner to expand the range
of available colors, and to compensate for colorant delivery limitations that prevent
the application of small, accurately metered quantities of colorant. Actuation
instructions for a specific dye injection machine capable of patterning a moving
textile substrate may be generated.

15